5 | Costs and Revenue

This chapter provides an estimate of the cost to construct the Regional Bikeway Network (RBN) presented in Chapter 4, and the corresponding revenue expected to be available to complete the network through 2035, the horizon year of *Transportation 2035* and the *Regional Bicycle Plan for the San Francisco Bay Area*. All figures are in 2007 dollars, the base year of both plans.

Cost of regional network

The cost to complete the RBN is estimated to be approximately $1.4 billion (see Table 5.1). This figure includes the cost to construct all unbuilt network segments in each county ($710 million) and pathways on the three toll bridges that currently prohibit bicycle travel: the West Span of the San Francisco/Oakland Bay Bridge, the San Mateo/Hayward Bridge and the Richmond/San Rafael Bridge ($700 million). The pathway on the East Span of the Bay Bridge is fully funded and under construction, and the pathway on the Benicia/Martinez Bridge is fully funded and about to be constructed.

> The cost to complete the RBN is estimated to be approximately $1.4 billion.

To gain an understanding of the relative cost of the average project in each county and the magnitude of impact that the three toll bridge projects have on the total RBN cost, Table 5.1 shows the average cost per mile of RBN projects in each county, on the toll bridges, and regionwide. Countywide average costs range from less than $200,000 per mile in Contra Costa County to over $1.5 million per mile in Marin County, with an average cost (without the toll bridges) of about $631,500 per mile. Cost information found in Table 5.1 is detailed in Appendix A. Rather than indicate that construction costs are higher for the same project in one county than another, Appendix A shows that cost variation among counties is a function of the type of unbuilt projects that characterize a given county's network (e.g., trails and bridges are typically more expensive per mile to construct than bicycle lanes).

In contrast to this $200,000 to $1.5 million per mile range, adding bicycle facilities to

the toll bridges is estimated to cost an average of $50 million per mile, 80 times the average non-toll-bridge RBN link cost.

All cost figures were calculated by escalating to 2007 dollars (the base year for the *Regional Transportation Plan* update) the cost of still-unbuilt segments reported to MTC in 2004 by the county congestion management agencies and transportation authorities. Escalated costs were reviewed by these agencies for this Plan update. MTC staff calculated the cost of segments for which no cost information was available using the construction cost assumptions published in the 2006 Alameda County Congestion Management Agency *Countywide Bicycle Plan*.[3] All existing and unbuilt links of the San Francisco Bay Trail spine are included in the RBN and are, therefore, reflected in Table 5.1.

[3] *Alameda Countywide Bicycle Plan*, Table 5-2, Alameda County Congestion Management Agency, 2006.

Other costs

While it is instructive to know the cost of the RBN, it is equally important to get a grasp of the other expenditures needed to create a cohesive regionwide bicycle system (see "Completing the Network" section of the previous chapter). These additional costs fall into the following categories:

Local projects

There are hundreds of projects detailed in dozens of citywide and countywide bicycle plans that are needed to link cyclists safely to local origins and destinations.

Bicycle parking

To provide safe and appropriate places to park at destinations throughout the region, new and updated racks, bicycle lockers (including new electronic lockers), and staffed and electronic bicycle stations (see "Bicycle parking" section of Chapter 4) are needed.

Way-finding and other signage

Signs along recommended bicycle routes and numbered bike routes, and to destinations of regionwide significance are needed to allow visitors to navigate unfamiliar bikeways and to educate local non-cyclists on the viability of cycling.

Onboard transit accommodations

This includes maintenance and replacement of front-loading racks and accommodations for bicycles inside bus, rail and ferry vehicles.

Cost to maintain and operate facilities

Beyond capital expenditures, striping bicycle lanes, repaving trails, replacing damaged signs, and operating attended bicycle parking facilities are essential to creating a regionwide bicycle system.

Table 5.1: Regional Bikeway Network cost

County	Unbuilt mileage	% Regionwide unbuilt mileage	Total cost (2007 $'s)	Average cost per mile	% Regionwide cost
Not including Bay Area toll bridges					
Alameda	187	17%	$165,510,000	$884,000	23%
Contra Costa	138	12%	$25,943,000	$187,900	4%
Marin	81	7%	$128,859,000	$1,585,000	18%
Napa	61	5%	$18,227,000	$301,000	3%
San Francisco	47	4%	$24,335,000	$515,000	3%
San Mateo	104	9%	$34,257,000	$329,000	5%
Santa Clara	182	16%	$205,290,000	$1,128,000	29%
Solano	110	10%	$40,651,000	$371,000	6%
Sonoma	214	19%	$66,809,000	$312,000	9%
Total (not including toll bridges)[1]	**1,124**	**100%**	**$709,881,000**	**$631,567**	**100%[2]**
Toll bridges lacking bicycle access (from Table 4.2)					
Richmond/San Rafael	3.9	0.3%	$57,750,000	$14,986,000	4%
San Francisco/Oakland Bay (west span)	1.9	0.2%	$518,338,000	$272,858,000	37%
San Mateo/Hayward	8.2	0.7%	$123,363,000	$14,985,000	9%
Toll Bridge Total	**14**	**1.2%**	**$699,452,000**	**$50,013,000**	**50%**
Grand total	**1,138**		**$1,409,333,000**	**$1,238,000**	**100%[3]**

1. Costs and mileage include all Bay Trail spine segments.
2. 100% of nontoll bridge costs.
3. 100% of all Regional Bikeway Network costs, including toll bridge costs.

Table 5.2: Projected revenue for bicycle projects & programs

Funding source	Annual estimate	Total estimate (2008-2035)
Administered by Metropolitan Transportation Commission		
Transportation Enhancements (TE)[1]	$600,000	$16,800,000
Transportation for Livable Communities (TLC)[2]	$18,000,000	$504,000,000
Regional Bikeway Network (RBN)[3]	$36,000,000	$710,000,000
Safe Routes to Transit (SR2T)[4]	$2,000,000	$56,000,000
Transportation Development Act, Article 3 (TDA-3)[5]	$2,900,000	$81,200,000
Climate Action Program (CAP)[6]	$20,000,000	$100,000,000
Administered by other regional, state or countywide agencies		
Bay Trail Grants[7]	$1,250,000	$5,000,000
Transportation Fund for Clean Air (TFCA)[8]	$600,000	$16,800,000
Hazard Elimination Safety (HES)[9]	$160,000	$4,480,000
Bicycle Transportation Account (BTA)[10]	$1,840,000	$51,520,000
Safe Routes to School (SR2S)[11]	$2,600,000	$72,800,000
Countywide sales tax measures[12]	$8,973,000	$251,244,000
Total	**$94,923,000**	**$1,869,844,000**

RBN funds (created for Regional Bikeway Network construction)	$710,000,000
Funds available for other bicycle projects and programs	$1,159,844,000

All revenue in 2007 dollars.
See facing page for footnotes.

Footnotes for Table 5.2

General assumptions

- 20% of competitive statewide sources will go to the Bay Area, based on population.
- Funding sources will continue through 2035 or be replaced with other sources with similar levels of funding.

Source-specific assumptions

1. TE: $60 M per year; 25% statewide; 20% to the Bay Area; 20% for bicycle improvements
2. TLC: $60 M per year; 30% for bicycle improvements
3. RBN: $710 M until 2035 to fully fund RBN, with exception of toll bridges. Funding stream (i.e., $36 M/year) not guaranteed.
4. SR2T: $20 M for first 10 years
5. TDA-3: $290 M per year; 2% under Article 3; 50% for bicycle improvements
6. CAP: Among other programs, includes $10 M per year each for SR2S and SR2T for five years. 50% for bicycle improvements. Funding not guaranteed to be allocated in equal increments every year.
7. Bay Trail: Program is dependent on receipt of grant funds, so amount and availability of funds can vary considerably from year to year. Amounts listed in table are estimates based on funds secured as of Regional Bicycle Plan publication. See www.baytrail.org for updates on the availability of Bay Trail Grant funds.
8. TFCA: $600,000 per year
9. HES: $16 M per year; 20% to the Bay Area; 5% for bicycle improvements
10. BTA: $9.2 M per year; 20% to the Bay Area
11. SR2S: $26 M per year; 20% to the Bay Area; 50% for bicycle improvements
12. Countywide sales taxes: $10.55 M per year; 75% for bicycle improvements (with exception of SF, which is 100% bikes). This total excludes revenue from the Santa Clara county sales tax measure because it does not set aside funding for bicycle projects, although bike projects are eligible for funding.

Efforts to promote bicycling

Promotions, such as Bike-to-Work and Bike-to School days; other encouragement programs, such as the Transportation and Land Use Coalition's TravelChoice[4] program; and traffic safety education programs aimed at motorists, bicyclists and the traffic engineers who design the facilities all modes must share help cyclists and non-cyclists alike learn to use the bicycle to safely travel throughout the region. Many of these expenses are ineligible for most grant-funding sources, which focus spending on planning, design and construction of facilities. The true cost of creating a comprehensive regional bikeway system that includes these other components is unknown at this time.

Revenue

In July 2008, the Metropolitan Transportation Commission pledged to fully fund the Regional Bikeway Network described in Chapter 4, with the exception of the toll bridge links. Although a program has not yet been created to fulfill this commitment – estimated to cost on the order of $710 million in 2007 dollars – the concept is to fund construction of all unbuilt non-toll bridge-links in the Regional Bikeway Network by 2035 (see Table 5.1 and Appendix A)[5]. This program will replace the Regional Bicycle and Pedestrian Program (RBPP), which was created in conjunction with the 2001 *Regional Transportation Plan.*

Beyond MTC's commitment to fund completion of the Regional Bikeway Network, over $1 billion is expected to be available through 2035 to fund bicycle projects and programs, assuming that today's fund sources and approximate funding levels will continue through the plan horizon year of 2035 (see Table 5.2). This funding will flow through 12 sources that routinely fund the development of bicycle facilities and, in some cases, programs. The first six are administered by MTC.

> MTC has pledged to fully fund the Regional Bikeway Network by 2035.

As the Bay Area's federally-mandated Metropolitan Planning Organization (MPO), MTC is responsible for programming many federal funds, including the Transportation Enhancements (TE) and Congestion Management and Air Quality Improvement (CMAQ) programs, as well as the State Transportation Improvement Program (STIP) and Transportation Development Act (TDA). Some of these, such as TE, are allocated directly to Bay Area claimants, while MTC uses others, such as CMAQ and STIP funds, to finance Bay Area-specific funding programs such as Transportation for Livable Communities (TLC) and the former Regional Bicycle and Pedestrian Program (RBPP).

[4] TravelChoice provides households with personalized transportation information with the goal of reducing solo driving trips and increasing transit usage, biking, and walking.

[5] *Transportation 2035* shows costs escalated to the dollars of the year of expenditure, while all costs in this plan are listed in 2007 dollars.

Regional agencies beyond MTC administer bicycle project funding as well, including the Association of Bay Area Governments through the Bay Trail Grant Program and the Bay Area Air Quality Management District through the Transportation Fund for Clean Air (TFCA). State funding sources for bicycle projects include the Hazard Elimination Safety (HES) program, the Bicycle Transportation Account (BTA) and the Safe Routes to Schools (SR2S) program, which are all administered by Caltrans. Although completely unrelated to each other, the region's seven transportation sales tax measures are treated in Table 5.2 as a single source. See Appendix D for detailed descriptions of each revenue source.

Analysis

The cost to complete the remaining 1,138 miles of the RBN is estimated to be approximately $1.4 billion, split about evenly between the toll-bridge and non-toll-bridge segments. About $1.9 billion is expected to be available for bicycle projects from non-Regional Bikeway Network program funds between 2008 and 2035. Since $710 billion of expected revenue will be dedicated to the construction of the Regional Bikeway Network, about $1.16 billion is projected to be available to fund bicycle projects and programs beyond the Regional Bikeway Network, like those discussed in the "Other Costs" section earlier in this chapter.

When comparing expected costs and revenues, it is important to consider that it is unlikely that any of the funding sources listed in Table 5.2 will fund bicycle access on the remaining bicycle-inaccessible toll bridges. Most funding is available on an annual basis, not in one 28-year chunk, the duration of the RTP, which would be necessary to fund projects of this magnitude. Furthermore, using these funds in this way would require cooperation among multiple funding agencies and agreement that they want to forego funding decades of smaller, local projects.

Therefore, if the $1.16 billion of projected revenue above the cost of the Regional Bikeway Network is assumed to be unavailable to fund bicycle access on Bay Area toll bridges because of fund source criteria, then it can be used to fund some of the non-network costs detailed in the "Other Costs" section earlier in this chapter. Transportation planners and advocates need to know the cost of local bikeway projects, planned bicycle parking, way-finding and other signage, improved onboard transit facilities, bicycle facility operation and maintenance, and programs to encourage bicycling in order to prioritize these bicycle funding investments and advocate for toll bridge access funding.